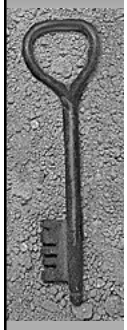
Key Management Guidelines

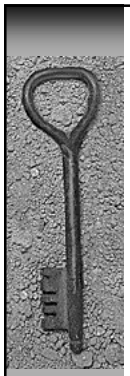
Selected Infrastructures

Tim Polk, NIST



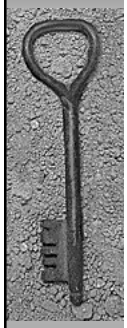
Status

- This section is currently empty



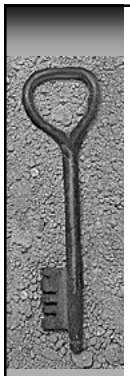
Classes of Infrastructures

- Three identified so far
  - Public Key Infrastructure
  - Kerberos
  - DNSSec
- Others?



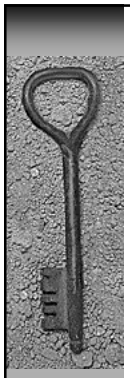
Scope

- Key management requirements for
  - Infrastructure components
  - Infrastructure “relying parties”
- Should be an infrastructure-specific interpretation of the guidelines in section 5



Example: PKI

- Infrastructure components
  - CA
  - RA
  - Repository
  - Status Servers
- Infrastructure users
  - Certificate subject
  - Relying Party

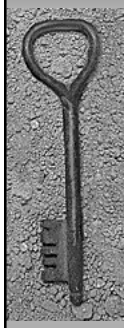


Classes of keys Handled by RA/CA

- 3 Classes by “owners”
  - CIMS personnel keys
  - Component keys
  - Certificate subject private keys

Classes of keys Handled by RA/CA, Cont'd

- 7 classes of keys by utility
  - Certificate and Status Signing Keys
  - Integrity or Approval Authentication Keys
  - General Authentication Keys
  - Long Term Private Key Protection Keys
  - Long Term Confidentiality Keys
  - Short Term Private Key Protection Keys
  - Short Term Confidentiality Keys



Repositories

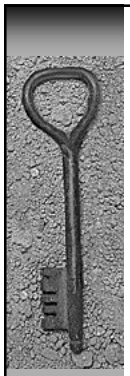
- Trusted repositories?
- Access Control?

Certificate Subjects/Relying Parties

- Their own public and private keys
- Trusted public keys
- Untrusted public keys for other certificate subjects
- May handle authorization codes, other infrastructure-supplied key materials

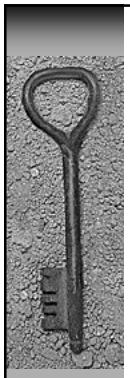
Goal

- Establish key management requirements for all the different types of keys
  - Selecting algorithms and key lengths
  - Key protection requirements
    - Generation, storage, import/export (e.g., POP)
    - Cryptoperiods and CRLs



Sources

- Source for infrastructure: CIMC
- Source for user components: ?



Completion

- Repeat this process for each infrastructure